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RECOGNIZING IMPORTANT SHRIMP OF THE SOUTH

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Shrimp occur commonly throughout the South Atlantic and Gulf coasts of the United States, and a great many people other than fishermen are interested in knowing "what kind of shrimp could this be?" This leaflet is intended to help in field identification of the more frequently taken species of some commercial value. These are all members of one family, Penaeidae, characterized by having the first three pairs of walking legs (of which there are five pairs in all) ending with chelae or small pincers.

Three species are the most abundant and valuable and comprise over 98 percent of the commercial catch. These are the white or common shrimp, Penaeus setiferus (Linnaeus), figure 1; the brown shrimp, Penaeus aztecus Ives, figure 2; and the pink or brown-spotted shrimp, Penaeus duorarum Burkenroad, figure 3. The sea bob, Xiphopenaeus kroyeri (Heller), figure 4, occurs widely over the area but is taken mainly in Louisiana. Rock shrimp, of which there is only one large species, Sicyonia brevirostris Stimpson, figure 5, are excellent but seldom are taken in enough abundance to be marketed. A relative newcomer to the industry is the royal red shrimp, Hymenopenaeus robustus Smith, figure 6, from deep water (175 to 300 fathoms) off the Continental Shelf.

A shrimp can be divided into two principal sections: (1) the head or cephalothorax, which bears the rostrum or head spine, eyes, antennae or whiskers, mouth parts, and five pairs of walking legs (the last five appendages under the head section); (2) the abdomen or tail, which has seven segments. There are swimming legs underneath the first five segments of the abdomen, and the telson or tail spine is on the last.

These six species can be separated as follows:

- I. If the shrimp has "teeth" or spines on the underside of the rostrum or main head spine and resembles figure 1, 2, or 3, it is a white, brown, or pink shrimp. (If the shrimp does not have these teeth, go to II.)
 - A. If the shrimp lacks grooves along the top of the head as "A" in figure 7, it is a white shrimp (Penaeus setiferus), figure 1.
 - B. If the shrimp has deep grooves extending along the top of the head almost to its posterior edge as in "B" of figure 7, it is either a brown or a pink shrimp. These are the most difficult species to separate in the field, but there are two field characters that will usually distinguish them.

1. If the shrimp has a wide open groove (in which a fingernail will readily enter in medium or large specimens) alongside the ridge at the top of the next to last tail segment (position "A" in figure 2), and does not have a brown spot at position "B" in figure 2, it is most likely the brown shrimp (Penaeus aztecus).
 2. If the shrimp has a groove almost closed (which will not allow a fingernail to be inserted in medium to large specimens) alongside the ridge at the top of the next to last tail segment at position "A" in figure 3, and has a brown spot at position "B" in figure 3, it is most likely a pink or brown-spotted shrimp (Penaeus duorarum).
- II. If the shrimp lacks "teeth" or spines on the underside of the rostrum or head spine (but it may have "hairs" or bristles), it could be a rock shrimp, sea bob, or royal red shrimp. See figures 4, 5, and 6.
- A. If the shrimp resembles figure 4 with a long recurved head spine and the last walking legs very long and slender (as "A" in figure 4), it is a sea bob (Xiphopenaeus kroyeri).
 - B. If the shrimp resembles figure 5 with a hard, rough, "sculptured" shell, it is one of the rock shrimp; and if it has the spines arranged on top of the head as in figure 5, it is the rock shrimp (Sicyonia brevirostris).
 - C. If the shrimp resembles figure 6 and has a spine (post-orbital) on the side of the head at position "A" in figure 6, it is a royal red shrimp (Hymenopenaeus robustus).

Color is not a very reliable means of separating the species of shrimp (owing to the great variation within species) but is of some assistance.

The white shrimp are generally a greyish-white and are variously tinged about the tail section and appendages with green, red, and blue. Occasionally a diseased condition causes the shrimp to be blue-black all over--the meat in such shrimp is soft and white, and these specimens are called "cotton" shrimp.

Brown shrimp are usually a reddish-brown color with tinges of blue or purple on the tail section and some of the appendages.

The pink or brown-spotted shrimp vary greatly in coloration with locality. Along the Atlantic coast they are usually lighter in color than brown shrimp, in the Tortugas fishery they are pink, and along the Northern Gulf coast they are often lemon-yellow. The brown spot on the side of the abdomen or tail is usually present.

Rock shrimp most usually are brownish on the dorsal surface and pale on the sides. The underside and appendages are variously colored or tinged with red or purple.

Royal red shrimp are most often a deep red all over but sometimes are only grey-pink in cast.

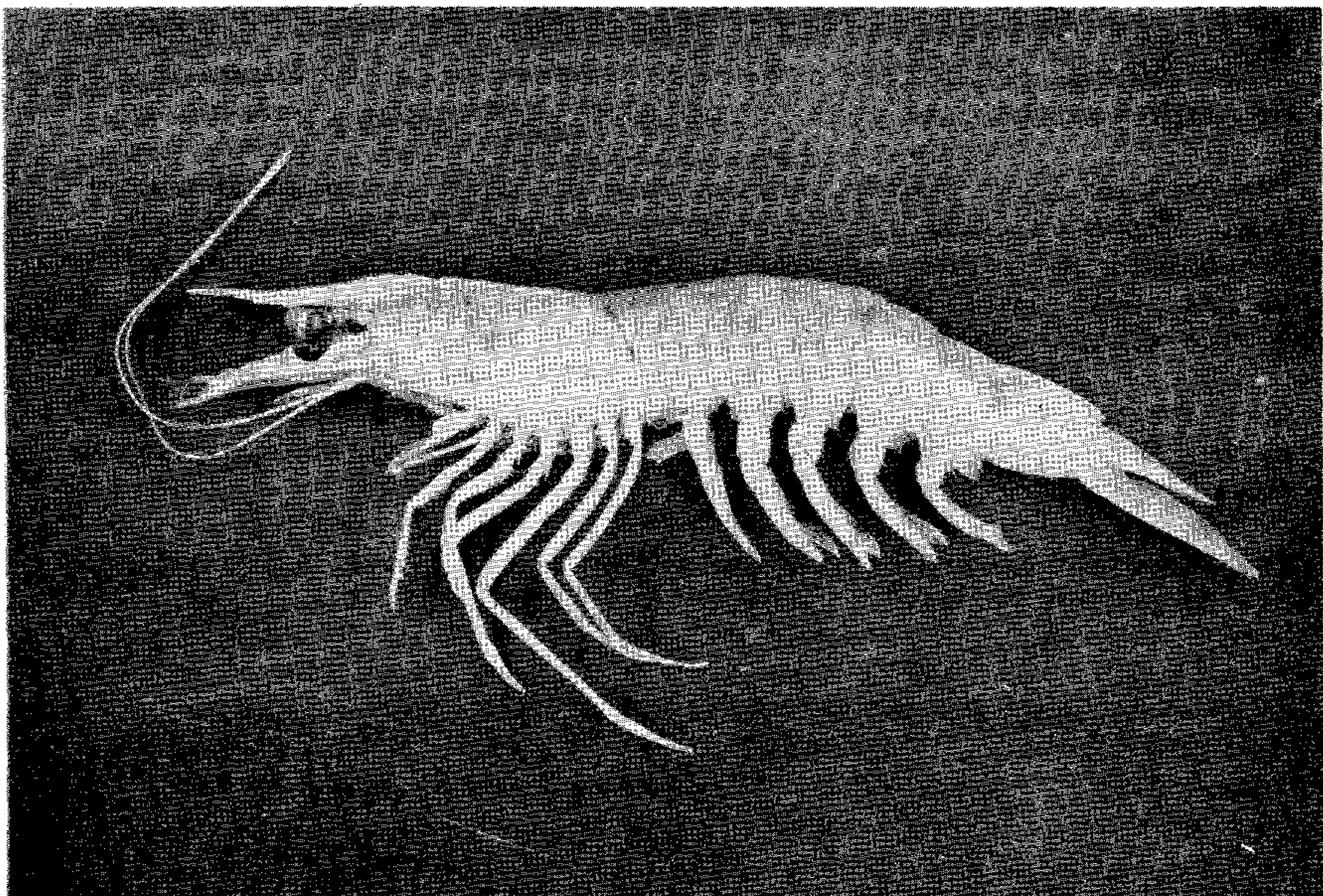


Figure 1.--The white or common shrimp, Penaeus setiferus.

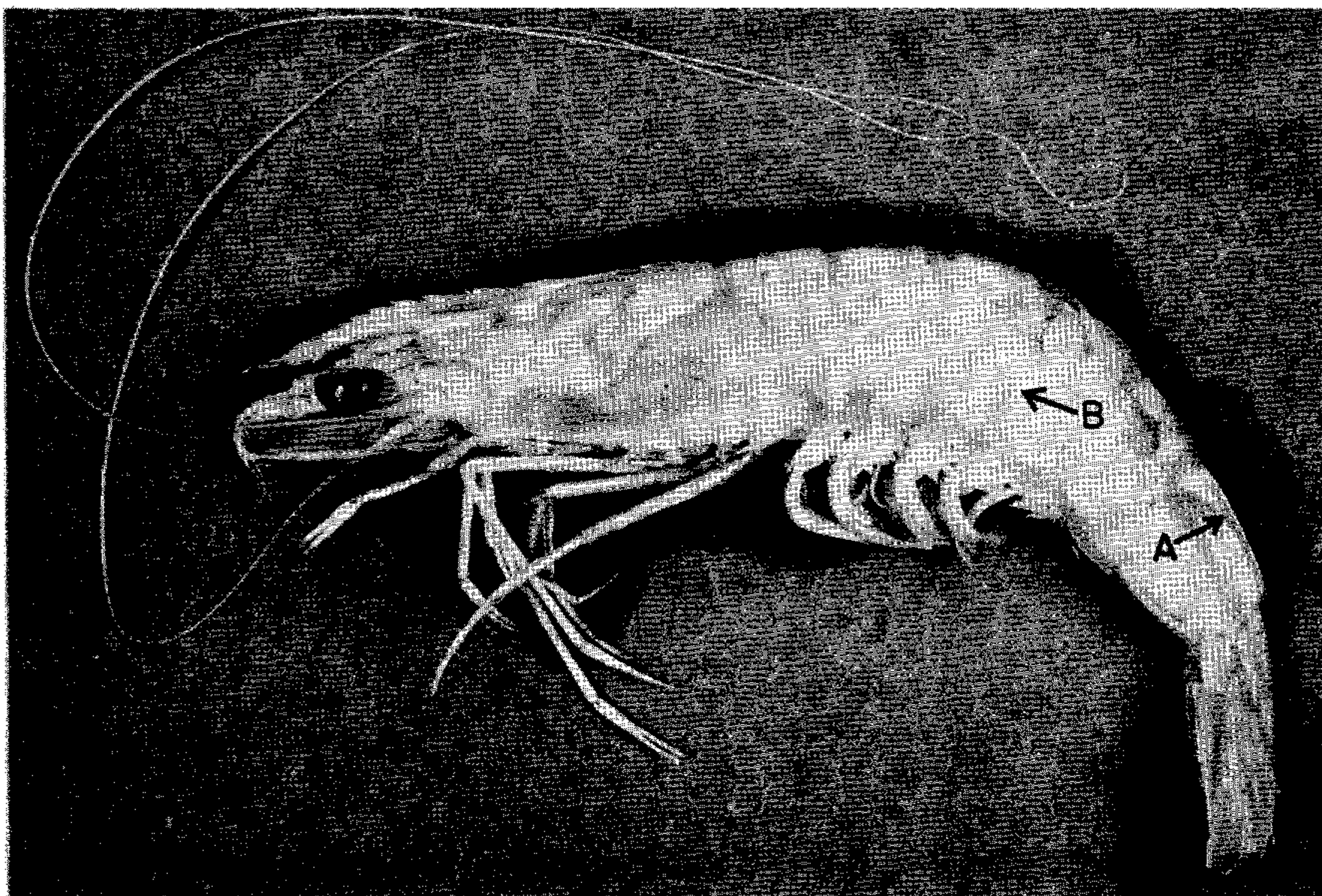


Figure 2.--The brown shrimp, Penaeus aztecus.
A=position of deep open groove, B=lack of brown spot

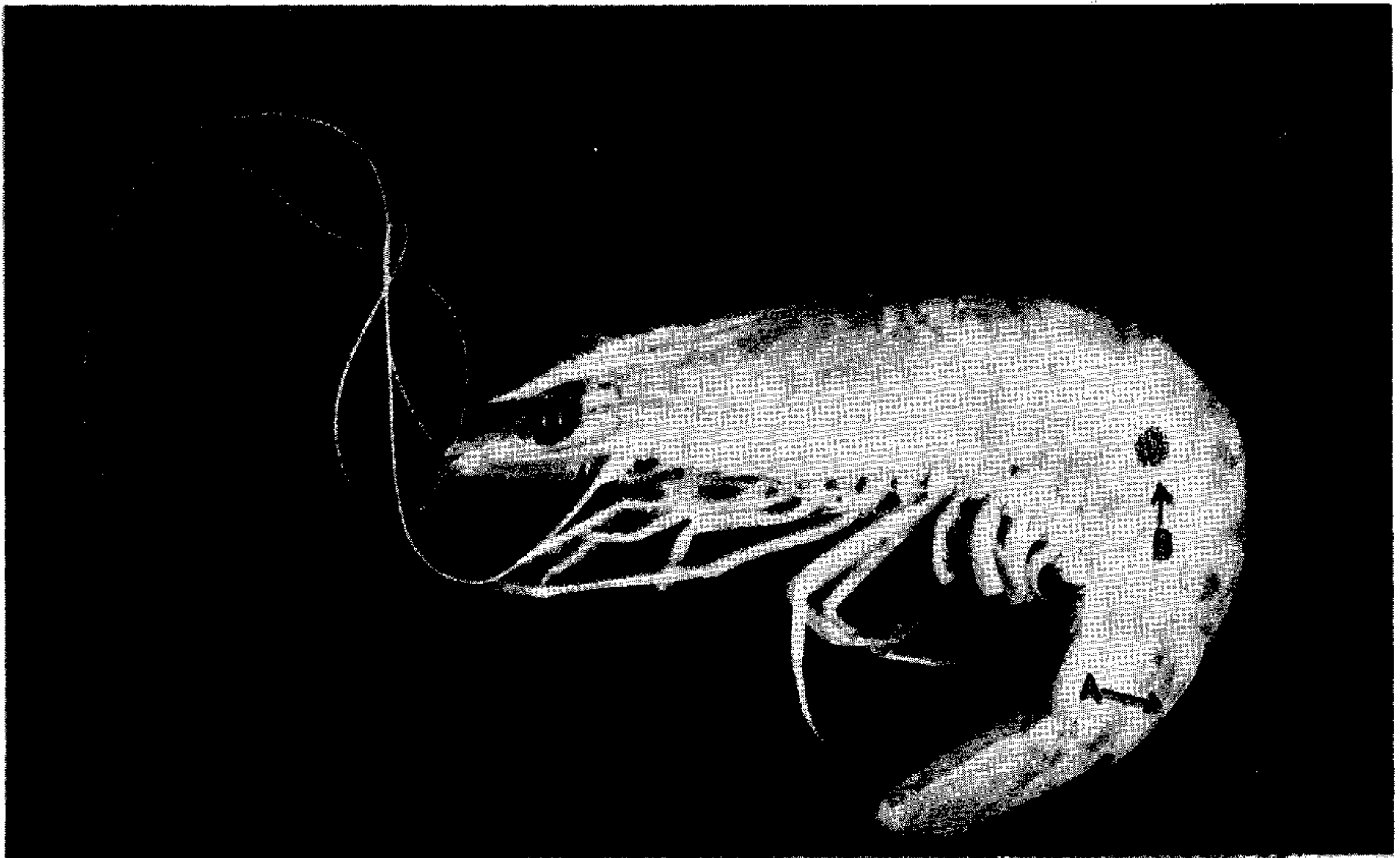


Figure 3.--The pink or brown-spotted shrimp, Penaeus duorarum.
A=position of groove almost closed, B=position of brown spot

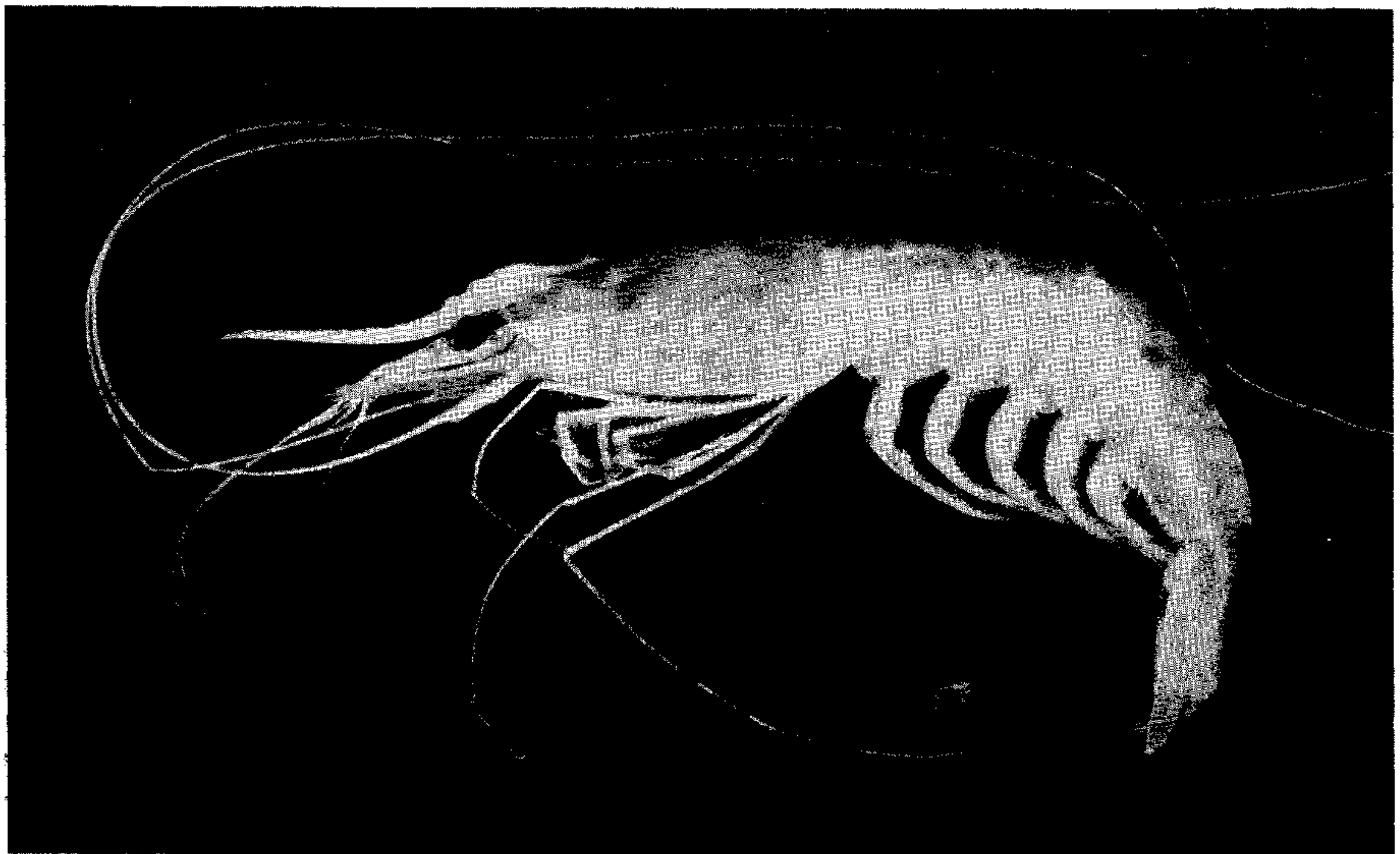


Figure 4.--The sea bob, Xiphopenaeus kroyeri.

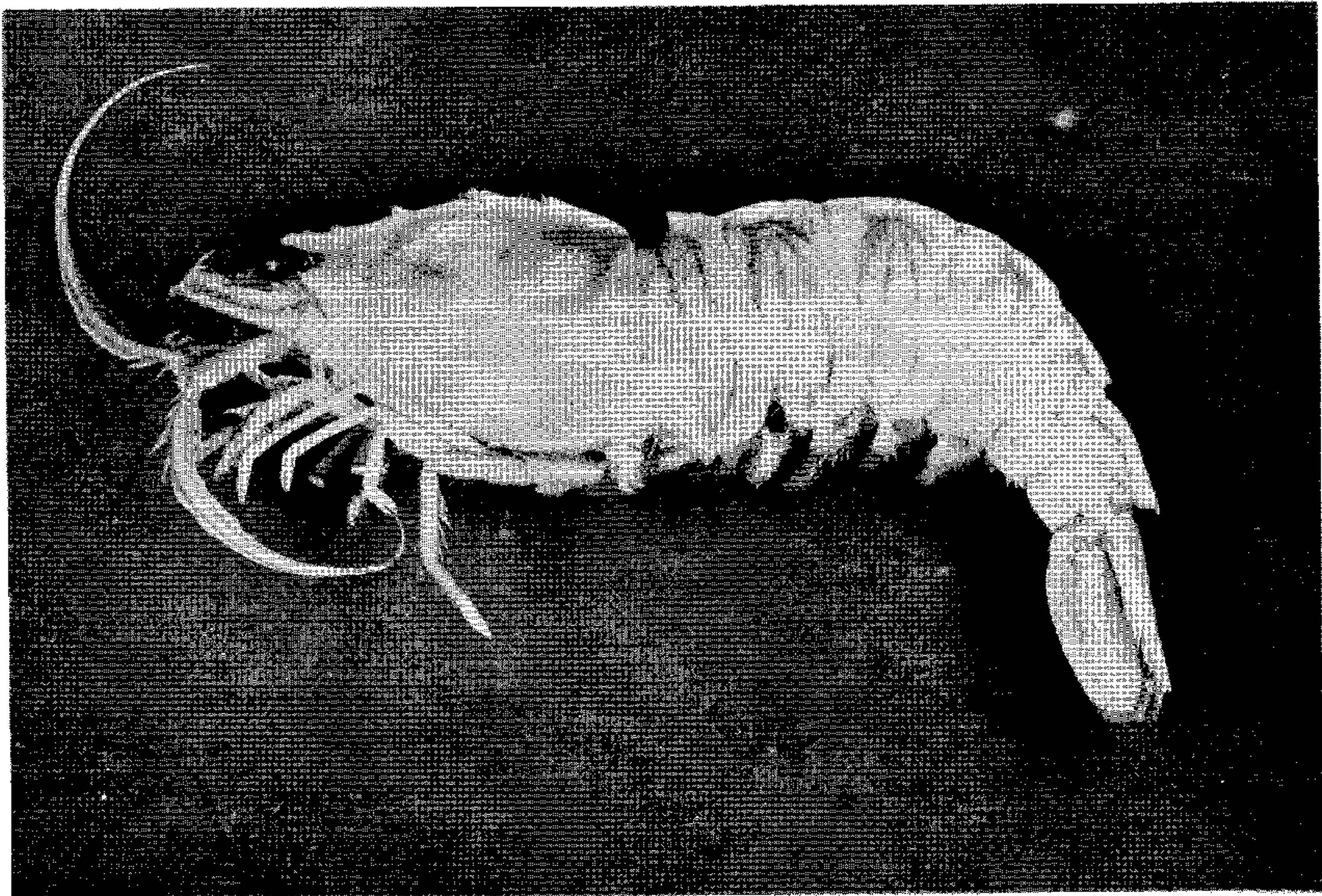


Figure 5.--The rock shrimp, Sicyonia brevirostris.

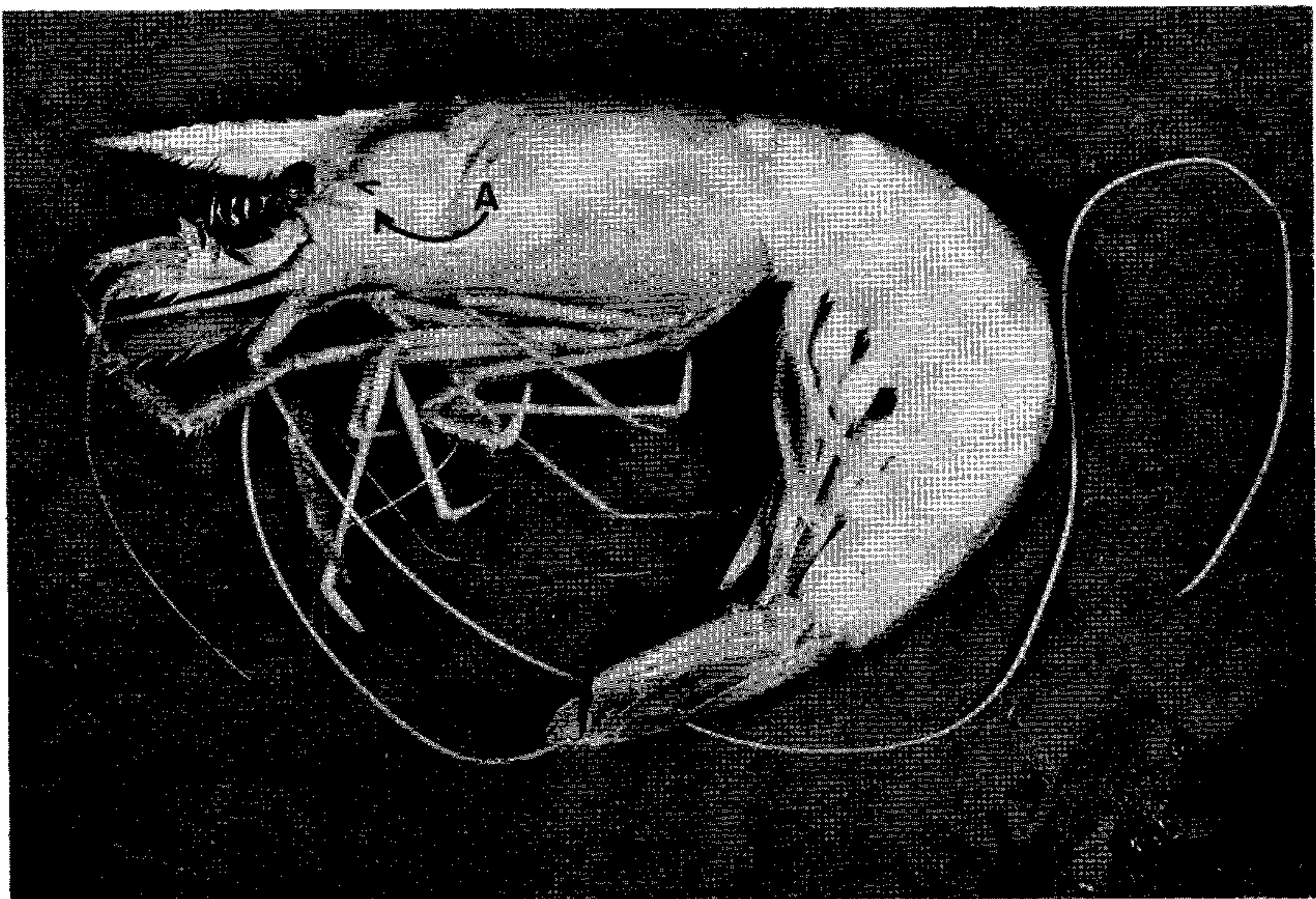


Figure 6.--The royal red shrimp, Hymenopenaeus robustus.
A=position of post-orbital spine

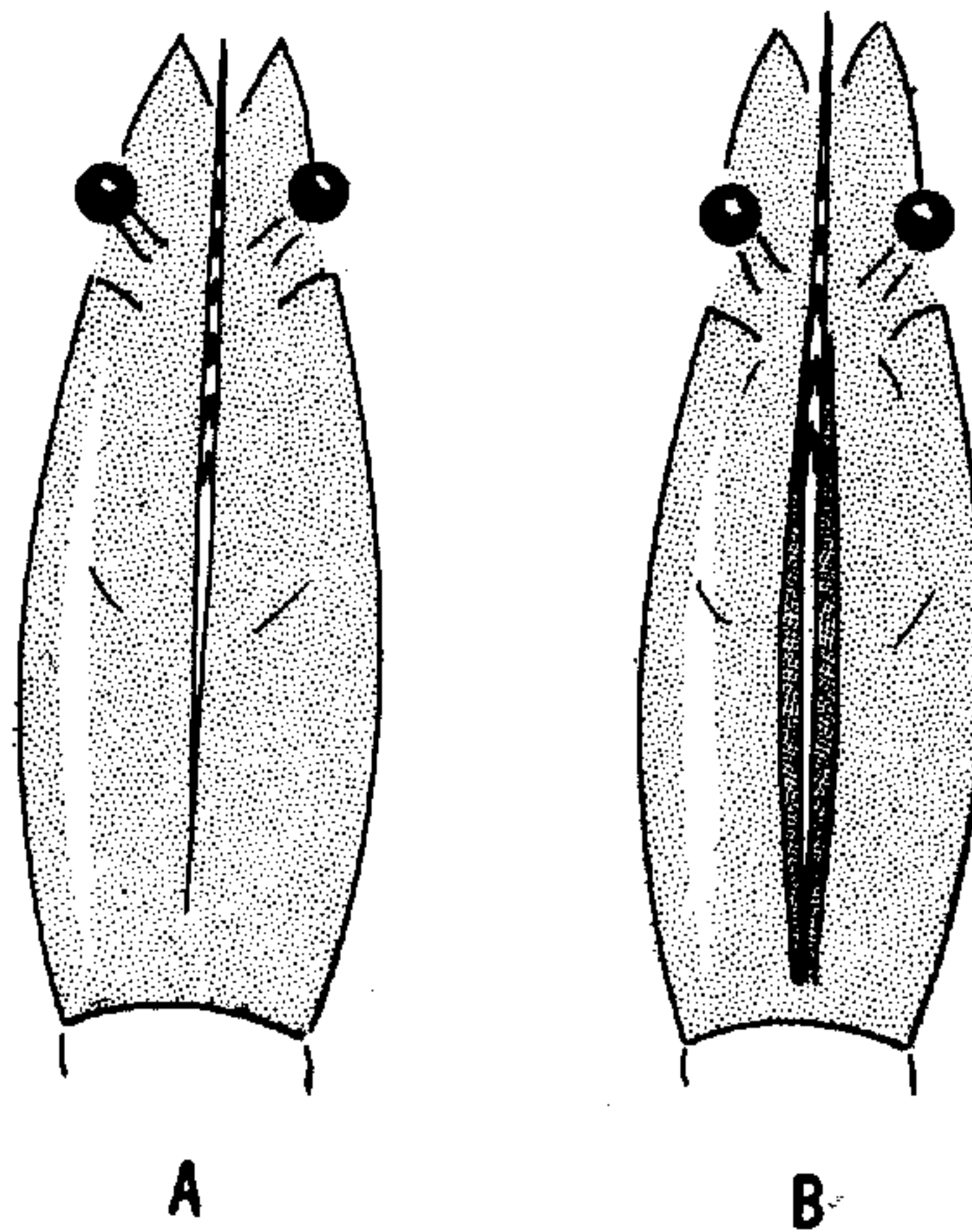


Figure 7.--Dorsal surface of head of a white shrimp
 (A) showing lack of grooves, and of a brown
 and/or pink shrimp (B) showing deep
 grooves extending almost to
 posterior end of the head.